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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,504	11/30/2001	Ken Dubuc	1400.1373460	6543
25697	7590	07/12/2007		
ROSS D. SNYDER & ASSOCIATES, INC. PO BOX 164075 AUSTIN, TX 78716-4075			EXAMINER WONG, BLANCHE	
			ART UNIT	PAPER NUMBER
			2616	
			MAIL DATE	DELIVERY MODE
			07/12/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

09/998,504

Applicant(s)

DUBUC ET AL.

Examiner

Blanche Wong

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed April 9, 2007 have been fully considered but they are not persuasive.
2. Applicant argues, apparently, that that buffer of the DS boundary nodes in RFC 2475 does not equate to the claimed "service interface" **[Applicant's Amendment, dated April 7, 2007, p.7, para. 3]**. The Examiner respectfully disagrees. As stated in the rejection of claim 1 below, the claimed "service interface" is interpreted as buffer of the DS boundary nodes. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.
3. Applicant also argues, apparently, that that buffers of the nodes within the DS domain in RFC 2475 do not equate to the claimed "plurality of transport interfaces" **[Applicant's Amendment, dated April 7, 2007, p.7, para. 3]**. The Examiner respectfully disagrees. As stated in the rejection of claim 1 below, the claimed "plurality of transport interfaces" are interpreted as buffers of the nodes within DS domain. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

4. Applicant argues that Examiner's assertions over the cited reference are inconsistent [**Applicant's Amendment, dated April 7, 2007, p.8, para. 3**]. The Examiner respectfully disagrees as stated in para. 2 and 3 above. The claimed "service interface" is interpreted as buffer of the DS boundary nodes, and the claimed "plurality of transport interfaces" are interpreted as buffers of the nodes within DS domain. Furthermore, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

5. If Applicant is arguing that a service interface and a plurality of transport interfaces are co-located in a first node, and that a subsequent node has a plurality of corresponding transport interfaces (and service interface) for transporting packets across an IP network using differentiated services, such a limitation is not recited in the claims. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a first node having a first service interface and a first plurality of transport interfaces, and a subsequent node having a second plurality of corresponding transport interfaces and a second service interface for transporting packets across an IP network which uses differentiated services) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are

not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

6. Applicant states that “Examiner alleges ‘(PHB group)’ teaches ‘a differentiated service profile’”. **[Applicant’s Amendment, dated April 7, 2007, p.7, para. 3].**

However, Examiner respectfully disagrees. Packets are marked with the appropriate Differentiated Services Code Point (DSCP) and then individually forwarded according to the service behavior defined for that DSCP. The service behavior is called Per Hop Behavior (PHB). Therefore, the packets are forwarding according to PHB defined for that DSCP, and PHB teaches a differentiated service profile.

7. Applicant also argues, apparently, that that multiple pairs of H/L priority queues do not equate to the claimed multiple subsets **[Applicant’s Amendment, dated April 7, 2007, p.9, para. 1]**. The Examiner respectfully disagrees. As stated in the rejection of claims 6-8 below, the claimed “first subset” and “second subset”, and corresponding “first transport interface” and “second transport interface”, are interpreted as multiple pairs of H/L priority queues. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

***Drawings***

8. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "the differentiated service profile maps ... differentiated service codepoint value to ... class[es] of service and a [plurality of] drop precedence[s]" (claim 9) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. **Claims 3-5,12-17,19-33** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 3, line 4, it is unclear whether "the plurality of transport interfaces", is the same as the "plurality of transport interfaces" in claim 1, line 6.

With regard to claim 12, line 2, it is unclear whether "the transport interfaces" is the same as "transport interfaces" in claim 10, line 6.

With regard to claim 17, it is unclear what is meant by "preserving" in line 2 and "inclusive" in line 3.

11. There is insufficient antecedent basis for this limitation in the claim.

Claim 19, line 6, "the classes of service of the subsets of the data packets".

Claim 26, line 5, "the classes of service of the subsets of the data packets".

***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. **Claims 1,2** are rejected under 35 U.S.C. 102(b) as being clearly anticipated by admitted prior art RFC 2475 ("RFC").

With regard to claim 1, RFC discloses

a service interface (**DS boundary nodes/buffer of DS boundary nodes**) ("**A DS domain has a well-defined boundary consisting of DS boundary nodes which classify ... ingress traffic ..., Section 2.1 Differentiated Services Domain**) for receiving the data packets (**ingress traffic**), the data packets including a differentiated service codepoint field (**DSFIELD**) ("**As described in [DSFIELD], a PHB is selected at a node by a mapping of the DS codepoint in a received packet**", **Section 2.4 Per-Hop Behaviors (PHBs)**) having a plurality of differentiated service codepoint value (**DS codepoint**);

a differentiated service profile (**DS codepoint**) associated with the service interface ("**As described in [DSFIELD], a PHB is selected at a node by a mapping of the DS codepoint in a received packet**", **Section 2.4 Per-Hop Behaviors (PHBs)**);

a plurality of transport interfaces (**nodes within DS domain/buffers of nodes within DS domain**) ("**Nodes within the DS domain select the forwarding behavior**

**for packets based on their DS codepoint”, Section 2.1 Differentiated Services Domain) operatively coupled to the service interface (DS boundary nodes/buffers of DS boundary nodes), the service interface assigning a first data packet (“A DS domain has a well-defined boundary consisting of DS boundary nodes which classify ... ingress traffic ..., Section 2.1 Differentiated Services Domain) having a first differentiated service codepoint value (DS codepoint) to a first transport interface (node) according to the differentiated service profile (DS codepoint) (“As described in [DSFIELD], a PHB is selected at a node by a mapping of the DS codepoint in a received packet”, Section 2.4 Per-Hop Behaviors (PHBs)).**

With regard to claim 2, RFC discloses a service interface **(DS boundary nodes/buffer of DS boundary nodes)** that assigns a second data packet **(ingress traffic)** having a second differentiated service codepoint value **(DS codepoint)** (“As described in [DSFIELD], a PHB is selected at a node by a mapping of the DS codepoint in a received packet”, Section 2.4 Per-Hop Behaviors (PHBs)) to a second transport interface **(nodes within DS domain/buffers of nodes within DS domain)** (“Nodes within the DS domain select the forwarding behavior for packets based on their DS codepoint”, Section 2.1 Differentiated Services Domain) according to the differentiated service profile **(DS codepoint)**.

### ***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:



(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. **Claims 6-11,18** are rejected under 35 U.S.C. 103(a) as being unpatentable over RFC in view of Chow et al. (US. Pat No. 7,072,300).

With regard to claim 6, RFC discloses the apparatus of claim 2. However, RFC fails to explicitly show data packets received at the service interface includes a first subset of the data packets having a first class of service and a second subset of the data packets having a second class of service.

Chow discloses an interface (**output control queues 240 in Fig. 3, col. 7, line 21**) including different subsets of the data packets having different class of service (**pairs of H/L priority queues 350 in Fig. 3, col. 7, lines 21-22**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine an interface including different subsets of the data packets having different classes of service as taught in Chow, with RFC, to efficiently process and forward packets.

With regard to claim 7, the combination of RFC and Chow discloses the apparatus of claim 6.

Chow further discloses a first transport interface transports the first subset of data packets having the first class of service (**a pair of H/L priority queues 350 in Fig. 3, col. 7, lines 21-22**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine a first transport interface transports the first subset of data

packets having the first class of service as taught in Chow, with RFC, to efficiently process and forward packets.

With regard to claim 8, the combination of RFC and Chow discloses the apparatus of claim 7.

Chow further discloses a second transport interface transports the second subset of data packets having the second class of service (**another pair of H/L priority queues 350 in Fig. 3, col. 7, lines 21-22**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine a second transport interface transports the second subset of data packets having the second class of service as taught in Chow, with RFC, to efficiently process and forward packets.

With regard to claim 9, the combination of RFC and Chow discloses the apparatus of claim 8.

Chow further disclose differentiated serviced profile maps (**action memory 412 in Fig. 4, col. 7, line 65**) the first differentiated service codepoint value (**DSCP in Fig. 6, col. 8, lines 53-54**) to the first class of service (**a pair of H/L priority queues 350 in Fig. 3, col. 7, lines 21-22**) and a first drop precedence (**a pair of H/L priority queues 350 in Fig. 3, col. 7, lines 21-22**) and maps (**action memory 412 in Fig. 4, col. 7, line 65**) the second differentiated service codepoint value (**DSCP in Fig. 6, col. 8, lines 53-54**) to the second class of service (**another pair of H/L priority queues 350 in Fig. 3,**

col. 7, lines 21-22) and a second drop precedence (**another pair of H/L priority queues 350 in Fig. 3, col. 7, lines 21-22**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine differentiated serviced profile maps the first differentiated service codepoint value to the first class of service and a first drop precedence and maps the second differentiated service codepoint value to a second class of service and a second drop precedence as taught in Chow, with RFC, to efficiently process and forward packets.

With regard to claim 10, RFC discloses

receiving the data packets (**ingress traffic**) at a service interface (**DS boundary nodes/buffer of DS boundary nodes**) (**"A DS domain has a well-defined boundary consisting of DS boundary nodes which classify ... ingress traffic ..., Section 2.1 Differentiated Services Domain**);

assigning classes of service based on differentiated service codepoint values (**DS codepoint**) associated with the data packets according to a differentiated service profile (**"As described in [DSFIELD], a PHB is selected at a node by a mapping of the DS codepoint in a received packet", Section 2.4 Per-Hop Behaviors (PHBs)**);

routing packets to transport interfaces (**nodes within DS domain/buffers of nodes within DS domain**) (**"Nodes within the DS domain select the forwarding behavior for packets based on their DS codepoint", Section 2.1 Differentiated Services Domain**) associated with the classes of service.

However, RFC fails to explicitly show classes of service.

Chow discloses classes of services **(priority) (H/L priority queues 350 in Fig. 3, col. 7, lines 21-22).**

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine classes of service as taught in Chow, with RFC, to efficiently process and forward packets.

With regard to claim 11, it would have been obvious to a person of ordinary skill in the art at the time of the invention to include routing packets according to destination addresses associated with the packets because packets are sent to a destination and a packet network is defined, and in this case, destined by network addresses.

With regard to claim 18, it would have been obvious to a person of ordinary skill in the art at the time of the invention to include exactly one of the classes of service to classify each DS codepoint **(See Also "As described in [DSFIELD], a PHB is selected at a node by a mapping of the DS codepoint in a received packet", Section 2.4 Per-Hop Behaviors (PHBs)).**

### ***Allowable Subject Matter***

16. Claims 19 and 26 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

17. Claims 3-5,12-17,20-25,27-33 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### **Conclusion**

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blanche Wong whose telephone number is 571-272-3177. The examiner can normally be reached on Monday through Friday, 830am to 530pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571-272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*Rw*

BW  
July 4, 2007

EDAN ORGAD  
PRIMARY PATENT EXAMINER

*Edan Orgad 7/7/07*